

Title (en)

Lens assembly with integrated feedback loop for focus adjustment

Title (de)

Linsenanordnung mit integrierter Rückkopplungsschaltung zur Fokuseinstellung

Title (fr)

Ensemble lentille à boucle de rétroaction intégrée pour un ajustement de foyer

Publication

EP 2778734 B1 20230607 (EN)

Application

EP 14159269 A 20140312

Priority

US 201313800055 A 20130313

Abstract (en)

[origin: EP2778734A1] This invention provides a removably mountable lens assembly for a vision system camera that includes an integral auto-focusing liquid lens unit, in which the lens unit compensates for focus variations by employing a feedback control circuit that is integrated into the body of the lens assembly. The feedback control circuit receives motion information related to the bobbin of the lens from a position sensor (e.g. a Hall sensor) and uses this information internally to correct for motion variations that deviate from the lens setting position at a desired lens focal distance setting. Illustratively, the feedback circuit can be interconnected with one or more temperature sensors that adjust the lens setting position for a particular temperature value. In addition, the feedback circuit can communicate with an accelerometer that reads a direction of gravity and thereby corrects for potential sag in the lens membrane based upon the spatial orientation of the lens.

IPC 8 full level

G02B 7/28 (2021.01); **G02B 3/14** (2006.01)

CPC (source: EP US)

G02B 3/14 (2013.01 - EP US); **G02B 7/08** (2013.01 - EP US); **G02B 7/30** (2013.01 - EP US); **G02B 7/38** (2013.01 - EP US)

Citation (examination)

EP 2034338 A1 20090311 - ETH ZUERICH [CH]

Cited by

CN110463181A; US11378814B2; EP3789822A4; WO2019221541A1; US11194221B2; WO2018139859A1

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DOCDB simple family (publication)

EP 2778734 A1 20140917; **EP 2778734 B1 20230607**; EP 4235231 A2 20230830; EP 4235231 A3 20231018; US 10712529 B2 20200714; US 11513311 B2 20221129; US 2014268361 A1 20140918; US 2021003811 A1 20210107

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